REMARKS/ARGUMENTS

Claims 30-36, 38-46, 48-49, and 60-67 are pending. Claims 30, 40, 49, and 60 are amended.

Claim 49 is objected to because of informalities. In view of the amendment to claim 49, it is respectfully requested that the above-mentioned objection be withdrawn.

Claims 30-36, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langberg et al. (US 6,243,425) in view of Takatori et al (US 5,581,585) and Gadot et al. (US 5,513,216).

Amended independent claim 30 includes among other limitations, "wherein when in transmission mode, the plurality of tap coefficients of the decision feedback filter gradually decrease in value as the plurality of tap coefficients of the precoder increase in value and when the plurality of tap coefficients of the precoder reach their final value, the corresponding tap coefficients of the decision feedback filter will be at a corresponding final value of zero mitigating the need for the decision feedback filter to perform decision feedback filtering." None of the cited references, alone or in combination, teach or suggest the above-mentioned limitation.

As the Examiner accurately points out, Langberg and Takatori do not disclose the above limitation. Additionally, Gadot, alone or in combination with Langberg and Takatori, does not teach or suggest the above limitation.

Rather, Gadot, describes a "quick retrain" process, in which a "receiver 20 notifies transmitter 10 that a 'quick retrain' is about to be performed, <u>freezes the ISI-predictive</u>

filter from further adaptation in step 908, and sends I_1 (z) to transmitter 10 in step 910." The receiver then "illustratively monitors the error rate in step 930 to determine when transmitter 10 has completed the quick retrain. When the the [sic] error rate is less than 10^{-7}, receiver 20 enables adaptation of the ISI predictive filter and returns back to step 905." (Col. 10, lines 5-16, underlining added.).

Thus, the above process is performed only during the retraining and not during transmission mode. Gadot clearly defines a training process as "the 'start-up,' or 'training,' phase, [where] the ISI-DFE of the receiver adapts to a standard test signal received from a transmitter. Typically, there is no precoding of this test signal by the transmitter. Once the ISI-DFE adapts, the resulting coefficient values of the ISI-DFE --as represented by the notation I(z), as known in the art--are transmitted back to the transmitter. e.g., over a reverse channel. At this point, the second phase, i.e., the "communications" phase is entered. In the communications phase, the transmitter now precodes the data before transmission using any of the well-known precoding techniques, e.g., Tomlinson precoding. (Col. 4, lines 7-18, underlining added.).

Additionally, there is no disclosure in the cited references that the above process mitigates the need for the decision feedback filter to perform decision feedback filtering, as required by claim 30.

Therefore, the amended independent claim 30 is patentable in view of the cited references. Dependent claims 31-36 and 38-39 are all dependent from claim 30 and therefore include all the

limitations of the independent claim 30 and additional limitations therein. Accordingly, these claims are also allowable over the cited references, as being dependent from an allowable independent claim 30 and for the additional limitations they include therein.

Claims 40-46, 48, 49, and 60-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langberg et al. in view of Morton et al. ("Run-Time Precoder Updates for HDSL2"), Takatori et al. and Turner (US 5,414,733).

Independent claims 40 and 60 include among other limitations, "when in transmission mode, the plurality of tap coefficients of the decision feedback filter gradually decrease in value as the plurality of tap coefficients of the precoder increase in value mitigating the need for the decision feedback filter to perform decision feedback filtering." None of the cited references, alone or in combination, teach or suggest the above-mentioned limitation.

First, as described above, the limitation of "when in transmission mode, the plurality of tap coefficients of the decision feedback filter gradually decrease in value as the plurality of tap coefficients of the precoder increase in value," is not described in any of the cited references.

Second, as explained above, the limitation of "mitigating the need for the decision feedback filter to perform decision feedback filtering," is not described in any of the cited references.

Third, the alleged combination of the four references, Langberg, Morton, Takatori, and Turner requires a series of

separate, awkward combinative steps that are too involved to be considered obvious. The fact that four different references need to be combined to allegedly render (previous) claims 40 and 60 obvious, indicates that claims 40 and 60 are NOT obvious in view of the cited references.
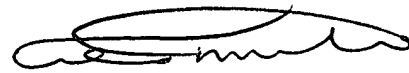
Therefore, the amended independent claims 40 and 60 are also patentable in view of the cited references. Dependent claims 41-46, 48-49, and 61-67 are all dependent from claims 40, and 60, respectively and therefore include all the limitations of their respective independent claims and additional limitations therein. Accordingly, these claims are also allowable over the cited references, as being dependent from allowable independent claims and for the additional limitations they include therein.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is now in condition for allowance, and accordingly, reconsideration and allowance are respectfully requested.

Respectfully submitted,

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